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# ASSESSING DEMAND FOR PHYSICAL OBJECTS AMONG MARKETING AGENCIES

– Market Research for Alphaform RPI Oy



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## TURUN AMMATTIKORKEAKOULU THESIS

The market for 3D printing services is projected to grow significantly. A service provider of 3D printing and rapid prototyping services, Alphaform RPI Oy recognizes that there are numerous growth opportunities that can be exploited. A market research was initiated by the case company to look for any emerging trends to use physical objects. The study was focused on exploring marketing agencies and their vision on 3D printing and rapid prototyping services.

Theoretical framework was built around market research, growth opportunities and value innovation strategies.

This research is a qualitative case study. Interviews were conducted with representatives of three marketing agencies from Turku. Interviewed agencies provide a wide spectrum of marketing solutions. Moreover, they performed services to nationwide and international customers. During interviews study participants were asked about their current business and demand for physical objects. This information was necessary to determine whether marketing agencies with their customer needs and wants could be targeted as potential customers by Alphaform RPI Oy.

The findings indicated that the demand of physical objects is determined by marketing agencies' specialization, secondly that needs of the end customers determine the demand for physical objects in marketing agencies. With this research it was identified that marketing agencies do not have a significant demand for physical objects. Neither were identified any emerging trends among marketing agencies to use physical objects. Therefore, marketing agencies do not appeal as potential customers for Alphaform RPI Oy.

As the industry grows rapidly, the case company would be suggested to keep monitoring trends and the dynamics of the market. A practical implication for the case company would be to promote 3D printing and rapid prototyping services to a broad audience.

### KEYWORDS:

Alphaform RPI Oy, market research, demand, physical objects, customers, growth opportunities

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## **LIST OF ABBREVIATIONS (OR) SYMBOLS**

3D	Three dimensional
CAD	Computer-aided design
CRM	Customer relationship management
ERP	Enterprise resource planning
SCM	Supply chain management

# 1 INTRODUCTION

## 1.1 Research Background

Highly-competitive globalized business environment puts more pressure on companies to sustain their competitive advantage. To stay successful companies are not just endeavoring to provide the best products and services, they also have to look for new opportunities to stay competitive. New opportunities could be discovered not only via exploring the current customer base but also by reaching the prospective customers. Nevertheless taking advantage of the opportunity involves risk. Therefore to reduce business risk it is suggested to carry out market research (Hague, Hague and Morgan, 2004).

By conducting a market research companies obtain data which later can be analyzed and interpreted into information and knowledge. Information resulted from market research helps companies to make better decisions and reduce the risk. (ESOMAR 2012.) Birn (2004) also advocated that using information for decision making results in better decisions. Schroiff (2007) proposed to look at market research as “the fundamental resource for business insights, measurement, knowledge, and tools that are systematically used for achieving higher levels of market performance and stakeholder value”.

There might be different aims for market research to be undertaken. This market research is aimed at looking at prospective customers. To support a management decision whether a particular group could become company's prospective customers, and to further allocate marketing efforts and resources to win these customers; data on customer behavior and their preferences should be collected, analyzed and interpreted. Abovementioned actions require well-planned and well-implemented market research. It becomes clear how essential it is to conduct a market research for better decision making. Such a research would verify management assumptions with the facts (Birn, 2004). There is a great deal of literature written on how to carry out market research,

and the more detailed view on market research will be introduced in theoretical part of this research.

## 1.2 Research Motivation

Alphaform RPI Oy is a company located in Rusko, Western Finland, which provides rapid prototyping and small scale serial production services. They produce prototypes as well as finished products in small series for a variety of clients such as designers, mechanics, engineers, advertising agencies and architects.

To get familiar with services that company provides, below is given a quick insight into what rapid prototyping is.

Transforming a digital idea into a physical object in less than an hour seemed practically impossible a while ago. However, 3D printing made it executable. A process for making a physical object from a three-dimensional digital model, typically by laying down many successive thin layers of a material is called *3D printing* ([www.oxforddictionaries.com](http://www.oxforddictionaries.com)). The term is often used synonymously with *additive manufacturing* (Wohlers Associates 2012). Other authors also mentioned that there are various terms in use to refer to this technology. Therefore, it is important to keep in mind then that most of the terms are interchangeable (Gibson, Rosen and Stucker, 2009). A collection of technologies that are driven by computer-aided design (CAD) data to produce physical models and parts through an additive process is defined as *rapid prototyping* by Grimm (2004). It can be seen how close the term is to the abovementioned one, 3D printing.

With the technology getting more affordable it is about to touch more lives, and not only businesses. Gans (2011) stated that 3D printing and rapid prototyping will enable a new, mini-industrial revolution. Not only he but many other literature and newspapers have been pointing out lately that 3D will be revolutionary.

The company acknowledges that the market growth of 3D printing and rapid prototyping industry occurs at a fast pace. Hence to keep up with industry growth Alphaform is interested in studying the market and to observe if there are any new or upcoming market trends. Particularly the company is concerned with capturing a new group of potential customers if any trends are discovered. With a market research designed for this study Alphaform will obtain information, which could help them to make a decision on whether a new potential group of customers can be formed.

Though Alphaform is one of the leading actors in the market, the company still has to take measures to sustain their competitive advantage and strengthen their position in the market. Stalk (1988) asserted that competitive advantage is a constantly moving target. For any company in any industry, the key is not to get stuck with a single simple notion of its source of advantage. This research is not designed to study competitive advantage and sources of it, however the researcher strongly agrees with Stalk (1988) that time, as a strategic weapon, is the equivalent of money, productivity, quality, even innovation. Alphaform recognizes a need to study the market in order not to be late and to keep up with the times. Market research is a good way to access information on market trends and prospective customers. New business opportunities might be exploited. Research can provide plenty of news, and management will obtain information that it has not known before (Birn, 2004). Therefore this research was initiated to spot a potential group of customers and any trends in the market that company could address.

At the moment Alphaform already has a solid customer base; still they do not want to miss opportunities to capture another market segment or an additional group of customers. We see how 3D printing and rapid prototyping industry is growing fast, and more demand will be created for such services. New ways of using such services may emerge in the market. Therefore, exploring potential customers and their demand could increase odds for the company to respond faster to the market.



### 1.3 Research Objectives

The objective of this research is to examine if there are any new or upcoming trends to use physical objects in the market that Alphaform RPI Oy has not addressed yet, but has a potential to do so with its technologies and product offerings. That would give Alphaform insight into the current dynamics of the market and to stay up to date. It is important to remember that staying up to date is often a prerequisite for exploiting new business opportunities.

The scope of this research is to focus on marketing agencies located in Turku, Finland. However, if possible, to extend this research to Helsinki market so that to gain a broader perspective on the issue than just a local. Alphaform is interested to find out what marketing agencies think of 3D printing and rapid prototyping services, and whether they consider using these services. That would address the primary objective of this research, which is to determine whether marketing agencies with their customer needs and wants could become a new group of customers for Alphaform service to produce 3D colored models.

#### *Statement of research objectives:*

1. To examine if there are any new or upcoming trends to use physical objects in the market that Alphaform have not addressed yet, but has a potential to do so with their technologies and product offerings. The market to be studied is in Turku region, and if possible to extend research to Helsinki market so that to gain more than just a local perspective on the issue
2. To determine whether marketing agencies (a study group for the research) with their customer needs and wants could become a new group of customers for Alphaform service to produce 3D colored models

#### 1.4 Research Structure

The first chapter introduces the research background, research motivation, and the objectives of the research. Chapter two presents the first part of theoretical framework, which is market research. It discusses in detail what market research is and its role for management. In addition the process of market research is presented in steps. The third chapter covers another part of theoretical framework. Growth opportunities and strategy development are discussed. Chapter four describes research methods used. It also covers development of the questionnaire for interviews. Chapter five provides analysis of gathered data and presents the findings. Finally, conclusions and further suggestions are outlined in chapter six.

## 2 MARKET RESEARCH

### 2.1 What is Market Research?

First of all, it is necessary to underline the fact that when it comes to *market research* many people tend to misuse this term with *marketing research*. Therefore it is important to take a look at the difference between the two terms; by looking at definitions of both concepts and then distinguishing between them.

The American Marketing Association (2004), the largest marketing association in North America, defines *marketing research* as following: “the function that links the consumer, customer, and public to the marketer through information – information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process. Marketing research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyzes the results, and communicates the findings and their implication”.

The European Society for Opinion and Market Research (ESOMAR), the world association for market, social and opinion researchers, offers a following definition of *market research*. *Market research*, which includes social and opinion research, is the systematic gathering and interpretation of information about individuals or organizations using the statistical and analytical methods and techniques of the applied sciences to gain insight or support decision making. The identity of respondents will not be revealed to the user of the information without explicit consent and no sales approach will be made to them as a direct result of their having provided information. (ICC/ESOMAR International Code on Market and Social Research 2007.)

Mooi and Sarstedt (2011) drew a parallel between the two concepts: “the definition of the American Marketing Association focuses on marketing research

as a *function* (e.g., a department in an organization), whereas the ESOMAR definition focuses on the *process*".

However, Wright (1999) explained the difference in his own way. Marketing research covers many different aspects of the marketing and includes a variety of researches such as market research, customer behavior research, competitor research and others. We can see that Wright (1999) proposed market research (which looks at the markets and the customers in those markets) to be as one of many other essential parts of marketing research. Nevertheless he also agreed that many times terms are used synonymously, and in spite of that it should not be a problem.

To take into consideration arguments of both authors, it can be concluded that marketing research is perceived as a broader activity. Applying marketing research to this research would mean to scrutinize all the activities within marketing department of Alphaform (as the organizational function) instead of just researching an area of interest for the company. This research is not aimed at studying a set of processes how Alphaform carries out its marketing, for instance, how the company markets its products to their customers, how they maintain customer relationships or how they communicate value to customers. There is a great amount of activities within marketing as a function of the organization, and they are interlinked. Even if the aim was to conduct marketing research instead of market research, doing it once would not exactly be the way to sustain successful marketing performance; on the contrary it should be taken as a continuous process for companies, and treated as one of the core activities of marketing. Whereas the objective of this research implies exploring a specific area outside of Alphaform's daily marketing activities, and which is relevant to the current market situation. After becoming familiar with the research findings the management can decide what to do with it, and whether the findings will have any impact on the existing marketing activities.

Theoretical framework for this research is significantly structured around market research theory. The research is aimed at collecting information and providing interpretations to the client company, however it is upon the company how to

use that information in their decision making process. “Market research is an aid to decision making; it is not the decision itself” (Schroiff, 2007).

Another definition of *market research* suggested by Hague, Hague and Morgan (2004) is that it is “the systematic collection, analysis and interpretation of information relevant to marketing decisions”. For a specific objective market research can be conducted as a one-time project, which would be called *ad hoc research*, or it also can be carried out as a continuous project. This research has specific objectives which are set to be carried out once, and are relevant to the current dynamics of the market; thus this research can be classified as an ad hoc research. (Hague, Hague and Morgan, 2004)

As it was mentioned earlier market research theory is a significant piece of framework for this research, however a few other theories are applied throughout this study, from marketing and management fields, to meet the objectives of the research.

Various definitions of market research were demonstrated. In the following section the role of market research and its relationship with decision making process are discussed.

## 2.2 Role of Market Research

Companies constantly face all sort of questions, assumptions and doubts that have to be managed appropriately. They are a part of decision making process, and affect overall organizational performance. Some of the decisions are routine ones; consequently, they do not require much of exhaustive consideration. However, other decisions call for the opposite: a more extensive research and careful evaluation of information. Data and information are sometimes what is missing to support the decision making. Callingham (2004) proposed that information essential for decision making can be derived from market research.

Market research is a source through which management is able to gain information. Information is often a crucial piece to better decision making. Hence, the role of market research for management is informing (Birn, 2004). Research can provide facts that previously were unknown to the management, and also can improve knowledge of the changing needs of customers.

West (1999) stated that “knowledge is the fuel which powers all decision making, and market research is the process by which companies acquire knowledge of the market places in which they operate, or would like to operate”.

As it was already mentioned, using data and information for decision making result in better decisions, and Birn (2004) demonstrated the following “implications for management:

- better knowledge of their markets and the customers they are selling to;
- more focused decisions and plans that are realistic to the market;
- decision that are based on more cost effective sales, marketing and communications methods;
- decisions that assist the company to increase sales by ensuring that customer needs are met and satisfied;
- action on the research that is completed.”

Different authors pointed out the importance of market research to support decision making process. Phillips (2007) stated that “the key role of the market research function in an organization is to provide reliable evidence which will help managers take better decisions”. Febelmar (2012), the Belgian Federation of Market Research Institutes, stated that “market research is the first step before any decisions are taken”. It can be concluded that the role of market research is to inform companies and to support decision making.

The aim of this research is to identify any emerging trends in the market, which could also be regarded as changes in the market. Identified trends could cause managers to think in a new way, and to make a decision on exploiting new business opportunities. Birn (2004) emphasized that “information on your

customers and how well you are marketing to them is key to knowing the changes in the market". This view supports the idea of undertaking this research for Alphaform, which is interested to learn about any emerging trends in the market. To follow current changes in the market and to spot possible emerging trends, information on customers, their buying behavior and preference should be gathered. Also providing hints on taking good decision, Birn (2004) suggested not to rely on past experiences for the reason that "markets and customer needs are always changing, and information is vital to indicate these changes are happening".

However, Birn (2004) also underlined that enhanced decision making depends on the type of information chosen to use. That means not all type of information will result in better decision making. The management has to weigh all pros and cons, to evaluate what information is needed and to decide how they will obtain the necessary information. Carefully chosen and well interpreted information enhances the decision making by reducing uncertainty and verifying management assumptions (Birn, 2004).

Callingham (2004) said that the importance of getting the decision right defines how much effort people are willing to put into data collection to support a decision. It has also been noted by Birn (2004) that it is not always easy and available for managers to assign an employee to data collection and further interpretation. However, companies have options to outsource this activity to external providers, be it a market research agency or an independent researcher (e.g. student, freelancer).

This section illustrated the informative role of market research and its close relationship with decision making process. However, it has to be acknowledged that not every and single market research will be an aid to decision making. The following section gives an overview of how to handle market research process.

### 2.3 Market Research Process

When there are questions and concerns to be answered by the organization, they can turn to the use of market research in order to obtain essential information and knowledge to solve it. There are certain steps and stages that should be followed when carrying out market research. This section outlines the process of market research. Knowing the steps and different stages enable researchers and organizations to better plan and execute research.

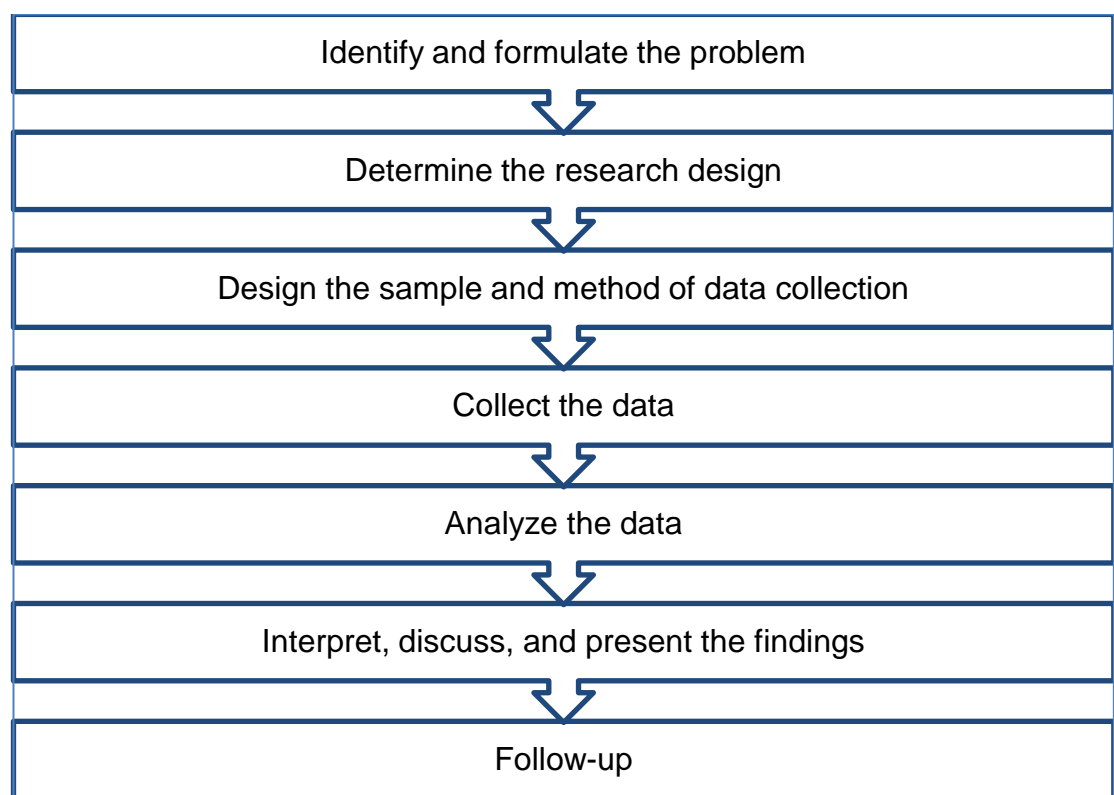


Figure 1. The market research process (Mooi & Sarstedt, 2011).

#### 2.3.1 Research Problem

The first step of market research process is to identify and formulate the research problem (Mooi & Sarstedt, 2011). Without formulating the problem properly the research is not given boundaries of how far the research should be



taken; therefore, the findings may turn out not what is needed or not useful at all. “Poorly defined problems will not yield useful results” (Beri, 2008). On the opposite, clearly defined problems make the relationship between the issues and variables clear, which is necessary in order to solve a research problem (Mooi & Sarstedt, 2011). Defining the problem becomes necessary for identifying what set of information is needed to respond to the research questions and meet the research objectives, which is claimed by West (1999) to be possibly the most important step in research. A thorough formulation of the research problem would provide a sense of direction to the researcher (Beri, 2008).

### 2.3.2 Research Design

With how much is already known about the problem researchers determine the research design, and also what type of questions should be addressed in the research (Mooi & Sarstedt, 2011). According to Green and Tull (1970) “a *research design* is the specification of methods and procedures for acquiring the information needed. It is the overall operational pattern or framework of the project that stipulates what information is to be collected from which sources by what procedures”. Thus the importance of this step underlies how thoroughly the structure of research is designed determines the effectiveness of market research. There exist 3 categories of research designs: exploratory studies, descriptive research and causal research (Beri, 2008).

*Exploratory* research is undertaken to discover ideas (Beri, 2008) or to explore a problem or situation (Mooi & Sarstedt, 2011). West (1999) proposed to carry out an exploratory research when there is little known or there is insufficient information to structure the problem. Such a research can take place in rapidly changing markets and innovative environments. Issues and behavior rather than statistics are studied with exploratory research, and frequently new product development is linked with exploratory research (West, 1999).

*Descriptive* studies allow to profile and structure the market in terms of various variables such as demand volumes, customer segments, prices, distribution channels (West, 1999). When there is a need of hard statistical data, such a research could become useful. Mooi and Sarstedt (2011) underlined another application of descriptive market research: to measure performance.

*Causal* research is used “to understand how changes in one variable affect another variable” (Mooi & Sarstedt, 2011). It lets to reveal the cause and effect relationship between variables (Beri, 2008). For instance, variables of the marketing mix can be studied on how one of them affects the rest.

In conclusion, the choice of research design will depend on what is already known about the problem and what findings the researcher is looking for.

### 2.3.3 Data Collection Methods and Sources of Data

The next step after determining the research design is to pick appropriate data collection method. That will depend on the available source of data to use, which can be either secondary or primary. Beri (2008), Mooi and Sarstedt (2011) emphasized that at first the researcher should put effort into searching for the existing data, secondary. The reason for doing so is that collecting secondary data tends to be easier, faster and cheaper. Only after recognizing that such data are not available, outdated or irrelevant, then the researcher can embrace the use of primary data. Therefore this step involves deciding which source of data to use for the research.

*Secondary data* are already existing data. It can be internally gathered, externally or a mix of both (Mooi & Sarstedt, 2011). Internal secondary data are extracted from within the company. Many companies employ various systems, such as enterprise resource planning (ERP) systems, customer relationship management (CRM) software, supply chain management (SCM) software, which all provide a massive amount of data and information on customers, suppliers, and transactions (Mooi & Sarstedt, 2011). For particular research

problems internal data could be enough to generate the necessary information to solve a problem. The sources of internal secondary data proposed by Mooi and Sarstedt (2011) can be company records, sales reports and existing research studies. In addition, West (1999) demonstrated another source of internal source - human intelligence, which implies information in the heads of the company's own staff. It should not be underestimated, since the experience and knowledge of company employees can bring unique value (information) to the research.

Data which are not originated in the company and obtained from outside sources are the external secondary data (Beri, 2008). Beri (2008) divided sources of external secondary data into two groups: government publications and non-government publications. Under the government publications come annual reports of ministries, census data; whereas publications of universities, trade associations, international organizations fall under the non-government publications group. Mooi and Sarstedt (2011) also pointed at social networking sites (Linkedin, Facebook etc.) as the source of external secondary data. Information available on those sites can reveal consumers' motives and actions.

In opposition to secondary data, "data which are collected at first hand either by the researcher or by someone else especially for the purpose of the study are known as *primary data*" (Beri, 2008). Primary data can be quantitative or qualitative data. Surveys and experiments are mostly used to gather quantitative data, and for qualitative data interviews, focus groups, observational studies, test markets are used (Mooi & Sarstedt, 2011). Beri (2008) proposed differently the categorization of how primary data can be collected. The two main methods were illustrated by the author: observation and communication. Observation implies observing the behavior of the respondents by the researcher. The communication is the method which implies the use of questionnaires to collect necessary information. Though authors classified the methods to collect primary data in a different way, both categorizations resemble to each other. After evaluating which source of data is available to the researcher and is most relevant to the research, a method of data collection

should be then determined. Different data collection methods have already been mentioned above, such as extracting data from existing publications, conducting surveys. This section was aimed to give an insight on how the process of market research looks like, an appropriate data collection method for this study will be discussed in the chapter “Research Methodology”.

#### 2.3.4 Sample

A further part of market research process is the sampling, it means determining the design and the size of the sample. Beri (2008) described the aim of sampling as following: “to choose a sample which will faithfully reproduce the characteristics of the population or universe”. It is close to West’s definition (1999), which described a sample as “a part of the universe which, if studied, can be used to draw conclusions about the universe as a whole”. However, one should also acknowledge the chance of sample error to occur. Beri (2008), West (1999) stated that the common reasons of errors are bias, the exclusion of important groups and non-response.

#### 2.3.5 Analysis of Data

Once the data have been collected, the next step would be to process and analyze the data. However, the techniques to do that will depend on the type of data, whether is qualitative or quantitative. For the reason that there is a great amount of analytical techniques existing nowadays, how to execute particular techniques which will be used for this research are described later in further chapters. Meanwhile, a brief overview of intention of this step will be discussed. Beri (2008) stated that “in the absence of proper analysis, data may be rendered useless resulting in a waste of time and money”. To take advantage of collected data and interpret it into useful findings, the researcher has to familiarize himself with different techniques available for data analysis.

West (1999) proposed a few tasks within this step to complete before undertaking the actual analysis of data. It involves editing, verification and coding. Ensuring that all questions have been answered and that answers are readable and can be further processed by the researcher is the process of editing. Response omission or partial responses can lead to the situation when the rest of responses to the same question by other respondents cannot be processed. As a part of verification process, it could be necessary to check the accuracy of data, for instance, in numerical questions. Responses should be checked for completeness, accuracy and uniformity before any further actions (Moser & Kalton, 1979). Assigning codes to the various response categories could help later to analyze data. It might be necessary for subsequent operations of tabulating and analyzing data (Beri, 2008).

Analysis of data can be carried out by the researcher himself or with a help of computer software. Hague and Jackson (1999) proposed that some very effective tools for data analysis can be general purpose software such as spreadsheets and databases. Which analytical tools the researcher will choose depends on the scale and complexity of the research, and also on the technical skills and experience of the researcher.

#### 2.3.6 Findings

After the data has been analyzed, it is then interpreted, and the findings are presented to the client. Not only should the findings be presented, but also the limitations of the research. As it was mentioned earlier, findings resulted from the research have the informative role, however which actions to be taken is upon the client to decide. The findings can help illustrate a picture of market or industry situation, and it may imply some generalizations to be made (Hague & Jackson, 1999).

West (1999) claimed that “there are countless examples of good research being undermined by poor reporting and there are also examples of poor research

being covered up by artistic reporting”. During the process of compiling a report, weaknesses in the research objectives and information gaps can be identified. Acknowledging it in a right time may still allow taking actions to fix weaknesses and complete the research. Therefore, the significance of reporting findings should not be undervalued; it should be taken with the same level of careful consideration.

### 3 GROWTH OPPORTUNITIES AND STRATEGY

The rules of companies to do well nowadays have changed, the attitude “if it’s not broken, don’t fix it” is not applicable for sustainable growth (Weinzimmer, 2001). Infusion of information technology and new ways of doing business require companies to react faster with more innovative strategic thinking. For Alphaform RPI Oy the rules appear even more tough because of the revolution that 3D printing and rapid prototyping industry is going through. Porter (1996) stated that in emerging industries managers face a great deal of uncertainty about customer needs, the desire for products and services, and the best set of activities and technologies to deliver them. Companies are afraid to risk being wrong or left behind, as a result many choose to imitate and hedge. Looking at competitors and how they do their business is not always the best benchmark for companies to exploit growth. Exploring different areas and moving in the different direction than competitors can lead to discovering such a business opportunity which will differentiate the company and make it more competitive. It should be noted that it is risky; however there are tools available to reduce the risk. One of it is a market research. It was already mentioned in the previous chapter that undertaking a market research reduces the risk and supports the decision making. Therefore, by conducting a market research companies can explore different areas and possibly spot a business opportunity while the risk is being minimized.

#### 3.1 Anticipating Needs and Trends

The current business environment forces companies to have “a more dynamic approach to strategy development that can focus concurrently on two different processes, exploiting current market positions while exploring for new ones” (Leavy, 2003). Though companies are required to keep up with the industry growth and market changes, while paying a close attention to the competitors; companies should consider taking an advantage of innovative strategic thinking which implies tailoring a strategy around something else rather than

competition. Kim and Mauborgne (1999) said that less successful companies rushed to beat the competition, whereas for highly successful companies the competition was not their strategic reference.

Weinzimmer (2001) claimed that gaining market share to grow business is considered a very common thinking among many managers; however effectively anticipating future needs of customers is what makes successful companies different from average companies. Anticipating trends can be very beneficial for companies to remain updated on the current dynamics of business world (Mearkle, 2009 [referred to 20.10.2012]). Many of the latest successful market innovations are by the companies who were able to recognize and anticipate market opportunities and future market trends. Anticipating events and where the market will be later can help companies to exploit an emerging business opportunity before competitors do so. (Darmon, 2007).

Dwyer and Tanner (1999) advocated that market-driven companies, or those with a strong market orientation, are able to become successful. Hunt and Morgan (1995) defined a *market orientation* as “(1) the systematic gathering of information on customers and competitors, both present and potential, (2) the systematic analysis of the information for the purpose of developing market knowledge, and (3) the systematic use of such knowledge to guide strategy recognition, understanding, creation, selection, implementation and modification”.

Weinzimmer (2001) emphasized that formerly being market driven was one of the prescriptions to be successful and to sustain growth, but it has changed; now successful companies ought to be market drivers. In comparison with market driven companies which are reactive, market drivers are proactive, they are able to offer customers value before they have recognized a need for it. Proactive market drivers are companies that create value before customers recognize a need rather than reacting to the market changes (Weinzimmer, 2001). In order to do that, companies need to continually explore the customers, and also the prospective ones. Previous experience and knowledge on the



current customers accumulated with insights from potential customers can result in a business opportunity for companies.

To be proactive and to become successful companies need to be able to anticipate customer needs. Therefore to go beyond traditional strategic thinking and rather than to focus on competition and gaining market share, companies can attempt to allocate their resources and efforts on anticipating the future needs and market trends.

With the aim of this study which is designed to explore potential customers, it might be possible to anticipate future needs or market trends. It does not necessarily imply discovering a growth opportunity with research conclusions, but as an alternative this research might enable Alphaform to learn about a potential group of customers from their within. Gradually prospecting potential possibilities with various groups, markets and industries increase the odds for Alphaform RPI Oy to spot growth opportunities of different nature. This study then can be regarded as one of numerous routes taken on discovering growth opportunities elsewhere than competition. As it was emphasized above by different authors to spot and to exploit growth opportunities, companies should not just focus on gaining market share; anticipation of customers' needs and market trends can be another way.

Dwyer and Tanner (1999) distinguished market-driven companies to be superior from the rest for the reason that these companies “do a better job of market sensing, or anticipating market requirements ahead of competition”. Collecting information from the market is market sensing, and market research is one of its forms. One could argue that it is better to undertake a research and not to be able to identify any business opportunities, rather not to conduct a research and to realize afterwards that opportunities have been missed. If the research does not require excessive resources and there is an opportunity to do that, companies might be better off undertaking a research in view of the fact that even small amount of new information generated might turn out to be valuable, and also can be used to verify the old knowledge.

### 3.2 Strategy Development

Companies develop strategies to achieve goals and to be able to move in the right direction according to the mission. It is not the single point at which companies aim to, instead it is a way how companies get where they want to be. By developing a strategy companies try to obtain a direction on where they should be heading and which steps should be taken to get there. However, strategy does not stay same over life span of the company. Environments where companies operate are changing, so should the strategy in order for the company to be able to progress. Market changes and identified opportunities all influence the strategy, therefore it is a long term process in which strategy is continually being developed and adapted to the current position of companies and also their vision. "Strategy development determines how you will exploit growth opportunities and provides the critical link between fast-growth opportunities and organizational capabilities" (Weinzimmer, 2001).

For Alphaform RPI Oy which chose to focus at identifying emerging market trends or spotting unaddressed customer needs, and not looking at competition as a source of growth, not all strategies would fit to exploit such a growth opportunity.

Kim and Mauborgne (1999) stated that in the modern environment where corporate well being is no longer imposed with industry conditions since the conditions can now be transcended through the systematic pursuit of innovation; companies should not compete for a share of given demand – they can create new demand. Furthermore, generic competitive strategies, such as low cost and differentiation (Porter, 1985), do not have to be an either-or strategy choice because innovation can be a sustainable strategy. Further sections present a rather different approach to strategy with a focus on innovation and not the competition.

### 3.3 Value Innovation

Weinzimmer (2001) listed three basic categories as the catalysts for growth: markets, organizational capabilities and strategies. Not only do companies have to operate in a growth market, they need to know how to manage the growth and to have an effective strategy to do so. Besides traditional strategies, which imply companies to focus on their competitors and how competitors do their business, Weinzimmer (2001) identified a radical strategy catalyst, which focuses on value innovation. “Emphasis on value places the buyer, not the competition, at the center of strategic thinking” (Kim & Mauborgne, 1999).

Founder and former CEO of Sony, Akio Morita stated: “If you survey the public for what they think they need, you’ll always be behind in this world. You’ll never catch up unless you think one to ten years in advance and create a market for the items you think the public will accept at that time”. Kim and Mauborgne (1999) also pointed that it is necessary for companies to think beyond their boundaries. In order for companies to create, they should be able to anticipate need and trends. Instead of inspecting how competitors do Alphaform RPI Oy decided to study a group of potential customers. It is important for value innovators to watch current customers but, more importantly, to follow noncustomers closely because they provide deep insights into trends and changes (Kim & Mauborgne, 1999).

If Alphaform RPI Oy anticipates any future market trends or needs of potential customers, the company can strive to create a market for it and to develop a radical strategy instead of traditional one. Moreover, embracing value innovation exerts a direct impact on company’s competition, by moving the company a few steps ahead of rivals.

Porter (1996) stated that many managers present strategic positioning in terms of their customers; however “the essence of strategy is in the activities – choosing to perform activities differently or to perform different activities than rivals”. It goes back to viewing things from competition perspective. There will be always a correlation of companies’ strategies with competition. For instance,

even if companies exploit radical strategies which imply to focus on delivering a novel value to the customers, the successful outcome would be going a few steps further than rivals in the market. It is then about how companies make those steps. They either decide to focus on competitors directly and develop traditional strategies; or they choose to innovate in value for customers and as the outcome to outperform the competitors. Kim and Mauborgne (1999) asserted that “value innovation makes the competition irrelevant by offering fundamentally new and superior buyer value in existing markets and by enabling a quantum leap in buyer value to create new markets”.

Two analogous strategy approaches with a focus on value innovation are presented below from two author perspectives: blue ocean strategy and leap growth strategy. Both of the strategies, though named differently, are based on the same principle to provide buyers with a leap in value.

### 3.3.1 Blue Ocean Strategy

By capturing uncontested market space companies can create “blue oceans”, where the competition is not the strategic benchmark. The cornerstone of blue ocean strategy is value innovation. Instead of focusing on existing market space and the competition within, companies concentrate on reaching new market frontiers by creating a leap in value for buyers, thus surpassing the competitors. The traditional approach and the contrary to blue ocean strategy is red ocean strategy, which implies outperforming in the existing market space. “In the red oceans, industry boundaries are defined and accepted, and the competitive rules of the game are known; in contrast, blue oceans are defined by untapped market space, demand creation, and the opportunity for highly profitable growth”. (Kim & Mauborgne, 2005). By creating new demand and addressing untapped demand companies can stretch out the current boundaries of the industry and set the new rules for competition.

Should it happen that Alphaform RPI Oy anticipates or identifies any market trend or customer need, and further based on that decides to exploit a growth opportunity; the company might attempt to create new rules for other players in the market to consider trading similar services to marketing agencies. However, by doing it first would bring the company to a new market level where there is no competition from direct competitors; thus providing Alphaform with a competitive advantage and a new source of growth.

As it was pointed out earlier, strategy should not stay fixed, rather should be continually revised and developed. Blue-ocean strategy is not an exception; Kim and Mauborgne (2005) stated that “blue-ocean strategy should not be a static process; it must be a dynamic one”. For companies it would mean to challenge the boundaries of their own company and of the industry on a continuous basis. Tucker (2008) also stated that “customer’s definition of what constitutes ‘value’ is a moving target”, and pointed out to companies to remember that the company’s value is “being imitated, copied, one-upped, attacked, diluted, and commoditized” except if the company counterattacks by constantly providing new, unique, and superior value for customers.

The question arises as to how to apply blue ocean strategy. Kim and Mauborgne (2005) proposed companies to look across various buyer groups. Conventional wisdom of the industry to serve a particular buyer group should be disputed by companies. A new blue ocean can lie with unrecognized customers. Companies can unlock value if they look out of the bounds of their current market. Kim and Mauborgne (2005) encouraged companies to ask themselves: “What is the chain of buyers in your industry? Which buyer group does your industry typically focus on? If you shifted the buyer group of your industry, how could you unlock new value?”. With this study Alphaform RPI Oy looks at non-conventional buyer group of the industry, marketing agencies, and aims to understand whether there would be any value of their services to marketing agencies.

Reaching beyond existing demand is the key component of achieving value innovation (Kim & Mauborgne, 2005). Traditional strategic thinking implies

focusing on existing customers - companies put forth efforts to maintain current customers. However, in order to maximize the size of blue oceans companies should look at noncustomers. By doing that, companies are able to produce “a blue ocean that expands the market and creates new demand”.

Kim and Mauborgne (2005) identified three tiers of noncustomers which can be transformed into customers. The first tier is closest to the company's market; they are buyers who rarely purchase an industry's offering, but considered as noncustomers of the industry. The second tier is people who refuse to use the industry's offering. The third tier of noncustomers is farthest; they are people who have never considered the industry's offering as an option. Looking at noncustomers can provide far more insight into how to unlock value and create a blue ocean than the existing customers (Kim & Mauborgne, 2005). By evaluating key commonalities across responses of noncustomers who refuse to use industry's offerings, companies can “unleash an ocean of latent untapped demand”. Companies miss out on many opportunities by underestimating unexplored noncustomers as potential customers of the industry. It happens because of the common assumption that those customers belong to other markets. Thus, undertaking this market research for Alphaform RPI Oy can help the company to determine whether marketing agencies as previous noncustomers could become potential customers. The assumption whether marketing agencies as previous non-customer could be turned into potential customers will be verified with this market research by anticipating any customer needs or market trends.

Kim and Mauborgne (2005) defined that many times there is untapped value in supplemental products and services, and companies need to look at the total solution buyers look for in products and services. For Alphaform RPI Oy it is then necessary to understand what value marketing agencies aim to provide to the end customers and what expectations the end customers have. Though, this research is not designed to access directly the end customers, the research aims at obtaining information on the end customers through marketing agencies.

### 3.3.2 Leap-Growth Strategy

Radical leap-growth strategy suggests delivering a novel value to the customer. Alphaform can attempt to facilitate marketing agencies to consider the value of 3D printing services by informing about the concept of the technology, its applications and advantages. Keeping in mind value innovation theory and by interacting with marketing agencies as potential customers, Alphaform RPI Oy can generate ideas on how to innovate on the value. This study is oriented at potential customers, and it is important to underline that the value of Alphaform's services can be perceived differently by marketing agencies than existing customers. If it is like that, then how the company markets its services should be also done differently. Dwyer and Tanner (1999) advocated that it is necessary to create distinct programs for different customers for the reason that customers are being created in different ways. In addition, by understanding needs and the business of marketing agencies Alphaform RPI Oy can recognize that there are opportunities to provide extra value, which are within the potential of the company; hence, Alphaform can exploit growth by innovating on the value.

Weinzimmer (2001) listed four value drivers under leap-growth strategies:

1. "Integrity – based on experience and the ability to understand its customers' businesses;
2. Commitment – to do whatever it takes to ensure that clients' businesses are successful;
3. Relationships – to ensure long-term success;
4. Risk sharing – having the willingness to share and even assume clients' risks."

In order to increase efficiency of the research, there should not be just the direct focus on what a group of potential customers perceive as the value of Alphaform's services. The research has to be designed so that also to understand the current business of marketing agencies. It is in particular critical

for business-to-business market research, which deals with more complex set of activities and business interconnections than consumer market research. Understanding customer business would expand to getting to know business relationships between marketing agencies, their suppliers and the end customers. There is a great impact of customer's own business relationships on how the company is able to exploit a growth opportunity with such a customer in case any market trend or customer need are identified. For instance, if there are any agreements with the current suppliers which prevent marketing agencies to cooperate with particular suppliers; the company (Alphaform RPI OY) could fall under such a category, and would be restricted to do business with a marketing agency. Moreover, how much coordination of activities, how final decisions are made and trust in the business relationships between marketing agencies and their end customers will bear an impact on how Alphaform RPI Oy can do business with marketing agencies. It could be that it is necessary for the end customer to approve which suppliers can collaborate on delivery of the end product. Therefore, besides anticipating the need Alphaform RPI Oy needs to understand not only the vision of marketing agencies and a potential demand, but also how marketing agencies do their own business. Having a clear picture of customer's business gives the company a wider spectrum of perspectives of what would be the extra value to the customer itself and the end customers, that is to say, gives the company supplementary opportunities to innovate on the value.

As it suggested by the second value driver, commitment, the company has to ensure it does its best to make sure customer's business stays successful. To achieve that, the company should be able to satisfy the end customer, to meet their expectations as a supplier and to be able to deliver perceived value. Dwyer and Tanner (1999) underlined the importance of every company to fully understand its role in the value chain, "by enabling one's customers to better satisfy its downstream customers, achieve market growth, or compete in new markets, one's company stands to grow too". It was also recommended by leap strategy value drivers to share risk of the customer. Success of the customer's business is in the interest of the company. However, being successful implies



taking risks and handling them effectively. Therefore, the company should be willing to share risks of the customer to help them stay successful.

The main objective of the research is to identify any new or emerging market trends by studying a potential group of customers. In order to achieve that needs of marketing agencies and their vision on the demand for 3D printing service are studied. Listed above value drivers behind leap growth strategy suggest companies to gain a closer understanding of customer needs and the way customers do their own business. It is related to customer relationship management and business-to-business marketing theory. In business-to-business market it is crucial to comprehend linkage between suppliers and the end customers, since the value to the end customer goes through the chain of numerous activities. Above listed suggestions to understand the customer business have been considered in the design of questionnaire. Dwyer and Tanner (1999) stated that by analyzing the value chain and the supply chain companies can identify additional points of value added; combined with other data on the current business environment and market situation it gives companies a better understanding of the market evolution and the emerging value priorities. Therefore, interview questions not only are targeted at finding out the vision of marketing agencies on 3D printing and rapid prototyping services, which is the central interest of Alphaform RPI Oy, but also at how marketing agencies do their own business, their relationships with end customers and a potential cooperation with Alphaform RPI Oy as a supplier.

### 3.4 Strategy Innovation

Companies that are able to adapt to the market changes and to turn them into business opportunities; companies that are willing to provide new values for customers; companies that take initiatives for a change and look for growth opportunities – are all practicing strategy innovation (Johnston, Bate & Douglas, 2003). Companies are challenged to think in innovative way in order to respond to the market changes successfully and to be able to satisfy customers.

The above mentioned concepts coined with “innovation” do not entitle companies to innovate on products and services they offer, but suggest companies to look for innovative ways to do their business - to market their products, to capture new customers, to develop strategies in different ways. Tucker (2008) defined strategy innovations as new ways to market one’s products, to deliver new value-added services or develop new branding innovations that de-commoditize company’s offerings, and dozens of other ways.

Therefore, for companies willing to apply radical strategies on exploiting growth opportunities it would be suggested to turn to strategy innovation within their company. Johnston, Bate and Douglas (2003) defined strategy innovation as “a process of applying innovative thinking to the entire business model of a company, not just to its products or inventions”. There can be a parallel drawn to Kim and Mauborgne’s (2005) value innovation concept: value innovation is about strategy embracing the whole system of company’s activities, orienting the whole system toward achieving a leap in value for both customers and themselves (companies). This research is not a modification to the entire business system of Alphaform RPI Oy; however strategy innovation recommendation can be considered in case any market trends are identified and then the company needs to market their services to potential customers. Thereupon the company could embrace strategy innovation for capturing a particular group of potential customers.

Johnston, Bate and Douglas (2003) defined the essence of strategy innovation as “changing rules of how customers receive value and having a business model that delivers that value better than anyone else”. To do that companies need to learn first what the current customer perception of value is, then to try to anticipate future needs and trends. Alphaform RPI Oy initiated a market research to gain insights into the vision of marketing agencies on how 3D printing service could be applied in their businesses. By understanding what marketing agencies think on the current demand and the future for 3D printing services, Alphaform RPI Oy is provided information that could help them tailor

an innovative strategy to possibly win marketing agencies as a new group of customers. Since marketing agencies would not be many times the end customers, to market services to them may differ significantly from how it is done to other customer groups. Marketing agencies demand for Alphaform's services depend on the nature of products and services they offer to the end customers. Therefore, the demand of marketing agencies for Alphaform's services is conditioned by demands of the end customers. In a view of this fact, questions in the interview were targeted at obtaining information on the business relationships of marketing agencies with the end customers.

### 3.5 Customers as a Source of Information

Published information from business periodicals, trade journals and other publications available for the public is the most common source of information for many managers. The data used by everyone are not what growth champions turn to. "Industry-level publications constrain creativity and expansion possibilities". Weinzimmer (2001). Relying on published information should definitely be exercised first by managers, since it is easier and cheaper to access. However, it is not from where innovation and creativity originate. Existing information is many times too general and statistical. Companies need to look for exclusive information from sources that would bring the most value. Weinzimmer (2001) stated that growth champions turn to the primary sources of information – customers, suppliers, employees, and competitors. By interviewing and exploring marketing agencies Alphaform RPI Oy attempts to gain insight into whether there would be any value of their services and technologies to the agencies as potential customers. Since the case company operates in business-to-business market, not only what the value is for marketing agencies should be considered, but also the value for other actors involved in value chain, which means that the value for the end customers should be taken into consideration and any possible interconnection with the current suppliers.

## 4 RESEARCH METHODOLOGY

### 4.1 Introduction

The actual work for this research started with compiling research proposal. The researcher had to set the direction for the research. Research objectives had to be clearly stated, some initial literature review had to be done, data collection methods had to be determined, and time framework had to be set. By doing that the researcher minimizes the risk of possible obstacles that could occur if the prior research design has not been done. It also lets the client company to review whether the research objectives meet their own interest.

Selecting research approach to the study becomes critical for handling the empirical part of the research effectively. Secondary data served as the basis for the study; however this research would not be possible without relying on primary data. The primary data for the study were obtained through personal interviews with managers of marketing agencies in Turku. How well the research is planned and designed determine quality of primary data collected, thus impacting the research overall. The empirical part focuses on exploring possible emerging trends in the market that the company could address. The findings will mainly be effective in short term since the research looks at the current dynamics of 3D printing and rapid prototyping industry from a local perspective. Hence, in order to follow the dynamics of the market and market trends it is suggested that companies pay close attention to the market continuously.

Theoretical part on market research demonstrated how the use of market research helps organizations to deal with concerns and questions, to practice better decision making and to exploit possible business opportunities. Market research has been illustrated as management approach from a practical perspective in Chapter 2; whereas, this chapter takes an academic perspective on the issue by considering appropriate research methods for effective

execution of this market research. This chapter describes how the actual market research process was carried out, and what the limitations of the research are.

Reasons why particular research methods were preferred over others are demonstrated in this chapter as well. Also there is a section devoted to discuss questionnaire issues such developing a set of questions and executing it. At last how the data were processed is considered.

## 4.2 Study Group

Respondents for the research are marketing agencies. The respondents were selected in cooperation with the client company. Five moderate size companies were invited to participate in the research; however only three were interested, and further interviewed. All of the three marketing agencies offer a wide spectrum of marketing solutions including print advertising, video production, packaging, exhibitions, give-away materials and other marketing related services. The more diverse product portfolio of respondent company allows a broader perspective and vision on the research problem. For instance, if a marketing agency specializing only on public relations has been interviewed, then vision on whether there is a need to use physical elements in other marketing solutions would have been left out. Not only do interviewed marketing agencies operate in Turku area, they have also provided services to nationwide customers, and even to some international customers. Thus it can be assumed that it enriches their vision as well.

## 4.3 Sampling

As Saunders, Lewis and Thornhill (2009) emphasized that it is not always possible to collect and analyze all the data available, and to conduct a census, due to time, money and access constraints. The researcher then turns to the

sampling techniques. It is also worthy to note that not all research questions may allow statistical generalizations (Saunders, Lewis & Thornhill, 2009).

One of limitations of this research is that the population was not accessed. The population is “the full set of cases from which a sample is taken” (Saunders, Lewis & Thornhill, 2009). The population for this research would be all marketing agencies in Turku. However, there were resource constraints for the researcher, previously outlined by Saunders, Lewis and Thornhill (2009). Not always a census (data of the population) would represent the situation better; effectively applied sample can provide analogous results.

Non-probability sampling was applied in this research. Such a sampling technique implies “the probability of each case being selected from the total population is not known and it is impossible to answer research questions or to address objectives that require you to make statistical inferences about the characteristics of the population” (Saunders, Lewis & Thornhill, 2009). It does not mean that the researcher was not able to draw conclusions; with non-probability sample the researcher is still able to answer research questions, just of a different form. Saunders, Lewis and Thornhill (2009) stated that within business research, such as this one, sampling frame might not exist or hard to specify, and becomes not always possible to do the same way as in probability sampling, where sample being chosen statistically at random, which makes it possible to include any case in the sample.

The researcher was guided with the logical relationship between sampling technique and focus of this research, and did not aim to conclude about the population. That is claimed by Saunders, Lewis and Thornhill (2009) to be appropriate way of handling research where the source for primary data is interview. Therefore, there are no strict rules on setting the necessary amount of respondents. Patton (2002) highlighted the validity, understanding and insights gained from data will depend on researcher’s data collection and analytical skills than on the sample size. Hence, this argument calls for another limitation of this research; findings depend upon the skills of the researcher. On the other hand, the researcher is more objective for the fact that he is a third

party between the client company and the respondents, and hold no or minimum bias towards any of the two parties.

#### 4.4 Research Data and Data Collection

Qualitative research was the main data collection method of this research. It was applied significantly for the reason that it attempts to go deeper, beyond historical facts and surface comments in order to get to the real underlying causes of behavior (Pellissier, 2008). Since this study aims at understanding the feelings of respondents towards the topic and their vision, from this perspective qualitative research comes in practical.

Hair, Wolfinbarger Celsi, Money, Samouel and Page (2011) advocated the use of qualitative research in the following situations: (1) when little is known about a research problem or opportunity and (2) where previous research only partially or incompletely explains the research question. Aforementioned recommendation was taken into account because there has not been done a prior study in the current circumstances, and there is little known about a research problem from secondary data.

Two options how primary data could be collected were discussed with the client company, Alphaform RPI Oy. The first option was to conduct online survey via emails, whereas the second option was to conduct face-to-face interviews. Interviewing was chosen as a data collection method for the research. Semi structured interviews were conducted; mostly relying on the questionnaire designed for interview, but also giving respondents a chance to comment and to add extra. This approach is more open than structured interviews for unexpected and insightful information to come to light, thus to enhance the findings, and in case, the researcher as the interviewer may want to ask related, unanticipated questions that were not originally included (Hair et al., 2011). Also during interviews a trusting relationship might be formed, which later could help

the interviewer to get extra information or to undertake follow-up studies (Marschan-Piekkari and Welch, 2004).

#### 4.5 Questionnaire and Interview

The structure for interview and a set of questions were developed on the basis of theoretical framework and cooperation with research supervisor and the client company. The interview questions (Appendix 2) were based on theories of general management, strategic management, marketing and business-to-business marketing. The process of preparing and carrying out an interview relied on market research theory. The questions included both open-ended and close questions. Open-ended questions allow an interviewee develop his own response; however, the use of close questions was critical to this research too so that to allow statistical conclusions to be made and reduce subjectivity. Grummit (1980) stated that open questions encourage the respondent to provide an extensive and developmental answer, and may reveal attitudes or facts. Open ended questions were important to this research since the aim of this research is to find out the vision of marketing agencies managers on 3D printing and rapid prototyping services. The answers can be very exclusive from each respondent, and be valuable, and should not be restricted by a set of answers as in close questions.

Interview questions were split into a few sections according to research topics, which include following: introduction, services provided by the respondent companies, value they deliver to the end customers, competitive threats to Alphaform, and possible cooperation with Alphaform. As it was outlined by Saunders, Lewis and Thornhill (2009), it is essential to consider the order and flow of the questions.

To ensure a proper interaction with respondents during the interview and to maximize answer accuracy, after asking open questions when it was the time for close questions the researcher presented respondents questionnaires on



paper. Taking into consideration abovementioned recommendation by Saunders, Lewes and Thornhill (2009), questionnaires were not provided neither at the very beginning of the interview process nor at the end. Respondents were provided with questionnaires a couple of times during the interview process so that to maintain the logical flow and order of the questions.

## 5 DATA ANALYSIS

### 5.1 Analyzing Qualitative Data

Prior to the data collection, this research did not put forward any hypothesis. For analysis of qualitative data Thomas's (2003) suggested to adopt the inductive approach so that "to allow research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured methodologies". Since the objective of the research is to find out the vision of marketing agencies on 3D printing services; no predetermined propositions based on theoretical framework were made. Accepting limitative theoretical propositions restrains the research findings because it does not take into account participants' views and experience (Bryman, 1988). Thus, participants' perspectives on the issue were not constrained by any means from the researcher side so that to allow any valuable insights from data collection to emerge.

One of qualitative analysis processes offered by Saunders, Lewis and Thornhill (2009) is summarizing of meanings. It implies condensation of meanings from the large amounts of text into fewer words, while becoming familiar with the main themes evolved from data collection. Similar notion is advocated in purposes to use a general inductive approach: "(1) to condense extensive and varied raw text data into a brief, summary format; (2) to establish clear links between the research objectives and the summary findings derived from the raw data and (3) to develop of model or theory about the underlying structure of experiences or processes which are evident in the raw data" (Thomas, 2003).

Excel spreadsheets were used by the researcher to gather, organize and analyze data. Summarizing was applied as well as a general inductive approach, to analyze qualitative data for this research.

## 5.2 Findings

This section presents analysis made on data gathered from interviews. Five marketing agencies with offices in Turku, Finland, were sent an invitation to participate in the research; however, only three expressed their interest, and were further interviewed.

In total questionnaire contained 16 questions. Interview questions were split into 5 sub-sections: introduction, services of marketing agencies, value to the end customers, competitive threats to Alphaform, and cooperation with Alphaform.

Analysis and the findings are presented in the same sequence as questions were asked in the interviews. Conclusions and further suggestions are introduced in the next chapter.

### 5.2.1 Introduction

Questions in the introduction section were aimed to determine whether marketing agencies are familiar with 3D printing and rapid prototyping services. In the preparation process of questionnaire, the researcher and the Managing Director of Alphaform discussed what information would give the case company insights into whether marketing agencies considered using 3D printing services in their business. It was assumed that if marketing agencies worked with 3D software and used 3D computer files in their business, it might lead them to consider using 3D printing.

With the first question it was identified that *only one out of 3 respondent companies uses 3D software to deliver their marketing solutions to the clients; while the rest 2 companies do not have experience with 3D software themselves.*

Then, it was critical to inquire marketing agencies if they have previously used 3D printing and rapid prototyping services in their business. *Company C, which*

*said to work with 3D software, has used mentioned services once for client's order on packaging solution; whereas the 2 other companies have not.*

The response to the previous question determined the next question to be asked. Provided that the company has not used 3D printing service before, the company would be asked on familiarity with 3D printing and rapid prototyping technologies. Therefore, companies A and B were asked whether they are familiar with the technology, and how they could use such services in their business. *Both companies are familiar with 3D printing but have not considered using it in their business. However they both proposed to rely on such a service when the physical samples of orders should be presented to the client (end customers).* Additional insight from the Company A was received: *having a model of a big in size product (e.g. ship, mining or construction equipment) could give companies an opportunity to present to their own customers the solution as a tangible object.*

### 5.2.2 Services of Marketing Agencies

This section was targeted to find out about marketing solutions respondent companies provide to their customers. First, companies were asked about *marketing solutions they provide*, and respondents were provided with a pre-defined set of answers. Among which were the following: *print advertising, TV advertising, video production, digital media, exhibitions, promotion events, packaging, give-away materials*. In addition, the respondents were asked to indicate the approximate percentage of all customers using a particular service. Certain marketing solutions (e.g. packaging) require a large amount of physical elements, whereas other solutions (e.g. social media marketing) do not need any. The number of customers using a particular marketing solution could reveal whether there is a sufficient demand of physical objects that Alphaform could address. Theoretical part of the research already emphasized that the demand of marketing agencies to use physical objects is derived from the demand on marketing solutions from the end customers. In other words, the

following data can help Alphaform to evaluate whether marketing agencies can form a potential group of customers.

The responses for solutions marketing agencies (A, B and C) provide and the approximate percentage of all customers using a service are presented below in tabular format.

Table 1. The approximate percentage of all customers using a particular marketing solution.

	A	B	C
Print Advertising	90 %	90 %	95 %
TV Advertising	30 %	20 %	20 %
Video Production	30 %	-	50 %
Digital Media	90 %	95 %	100 %
Exhibitions	50 %	-	40 %
Promotion Events	50 %	-	-
Packaging	20 %	2 %	60 %
Give-away Materials	50 %	5 %	40 %

It was designed on purpose that marketing agencies offering a wide spectrum of marketing solutions were selected for the research; thus it came as no surprise that *all 3 respondent companies provide many of marketing solutions introduced in the set of answers. In all 3 marketing agencies print advertising and digital media are purchased by majority of customers. Company B does not provide video production, exhibition and promotion events as marketing solutions due to the fact that the company makes its way into a digital marketing agency.*

In the following question, companies were inquired to mention *how much they rely on the use of physical objects to deliver their marketing solutions.* They had to specify the answer by selecting among *significantly, neutrally or insignificantly. 2 marketing agencies require insignificant use of physical*

*elements to provide their marketing services, only Company A relies on the significant use of physical objects to deliver their services.*

To clarify which marketing solutions require the use of physical objects, respondents were asked to select how strong the need of physical objects is in each marketing solution. Provided was the set of 4 alternative answers: *strongly, average, poorly, not at all.*

Table 2. The level of involvement of physical objects in a marketing solution.

	A	B	C
Print Advertising	poorly	not at all	not at all
TV Advertising	poorly	not at all	poorly
Video Production	poorly	not at all	poorly
Digital Media	poorly	not at all	not at all
Exhibitions	strongly	average	average
Promotion Events	strongly	poorly	average
Packaging	strongly	strongly	average
Give-away Materials	strongly	strongly	average

*As identified above, print advertising and digital media solutions are purchased by majority of respondents' customers. But according to the responses of marketing agencies on how physical objects are involved in various marketing solutions, it was found out that both print advertising and digital media solutions require no or poor use of physical objects. Thus, the most purchased solutions (by percentage of total number of customers) do not create potential demand for Alphaform to supply 3D printing.*

*While packaging, give-away materials and also exhibitions rely on strong or average use of physical objects (see Table 2); for 2 respondent companies A and C aforementioned services are purchased approximately by 50% of all*

*customers (see Table 1). Therefore, in this case, Alphaform can consider supplying demand of physical objects.*

*Then, the companies were asked to give their views on whether there is a strong need of physical objects in their current marketing solutions. All three respondents felt differently on this matter. However, 2 companies (A and C) mentioned that the project and the client itself play a significant part in whether physical objects will be involved in the solution or not.*

*With the following question study participants were asked to enlighten their vision on whether the situation with the use and the need of physical objects in marketing services will be changing in the future. Since the vision of marketing agencies is the central interest of the research, responses of each respondent are considered separately below.*

*Company A views that the market should be opened first by telling their own clients about 3D printing and getting them interested. After being able to purchase 3D printing service on behalf of some customers, then the company can use performed solution (involving physical objects produced with 3D printing) as the reference to propose to other customers to try 3D printing.*

*For Company B, which is turning into a digital marketing agency, they do not foresee any change in the need to use physical elements in their marketing solutions. However, the respondent emphasized that it is all dependent on the type of customers they may have and their needs.*

*Company C thinks that the situation will change for the reason that materials in 3D printing will improve, the timing will get shorter, and it will become easier overall. The respondent also suggests that the situation will change “when the knowledge of this possibility (3D printing) spreads among the designers and the creatives”.*

*Last but not least question of this section was intended to find out whether it is necessary nowadays to offer tangible items in marketing campaigns. Companies A and C identified it as important; whereas company B sees it only*

*important in business-to-business markets with traditional marketing being involved.*

### 5.2.3 Value to the End Customers

In order for a company to engage in a business with another company, an understanding of how the value is delivered to the end customers should be gained. This section with the set of 3 questions is designated to explore how marketing agencies deliver services to their end customers and to look into the activities of marketing agencies that create value to the end customers.

Companies were asked *how much time it takes them to deliver a marketing solution to their business customers*. Respondents were presented with the following answer options: *less than 2 weeks, between 2 weeks and 2 months, more than 2 months*. *For all 3 companies time, it takes to deliver a solution to the customer, falls in the range between 2 weeks and 2 months. But companies B and C underlined that it can take either longer or shorter depending on the scope of project.*

Since marketing agencies have to rely on various suppliers to deliver a final solution to the customer, and the suppliers become important actors of company's value chain; study participants had to clarify *whether they have to approve with their customers which external service providers will be involved in delivering the final product*.

*With the responses it was identified that the procedure varies for each marketing agency.*

*For clients of Company A prices of supplier's services are important. The company does not need approval of customers on the supplier most of the time. Company B is highly concerned with its business transparency, and the company only places invoices on their own work. Any third parties involved in the project have to issue an invoice directly to the end customer. Thus, the end*



*customers of Company B are directly involved with the suppliers; and only for smaller in scale projects Company B would not need customer's approval on the supplier. While Company C is always expected to approve external service providers with their customers.*

Physical objects might be involved before the final product is delivered. It can occur in earlier stages; for instance, when the agency has to do a preview of a marketing solution to the customer. Therefore, marketing agencies were inquired *how they do a preview of a marketing solution to their business customers* to find out whether it is done *with physical prototypes or digitally*. *All 3 companies do a preview of a solution to the customers digitally. However Company A also does it with physical prototypes, for instance, when the company develops give-away products. Company C, which previously mentioned that they execute packaging solutions, was asked whether shaping of the package, which would involve the use of physical prototypes, is carried out by the company itself. Then it was revealed that the company does the label design, and not the shaping itself. They have tried to do shaping once for their project, but they encountered difficulties to create a 3D shape due to a lack of know-how in 3D digital modeling within the company.*

#### 5.2.4 Competitive Threats to Alphaform

Before the case company can decide to do business with marketing agencies, their existing supplier network should be assessed. It can illuminate competitive threats, and how easy for Alphaform to enter the market as a supplier. This section was intended to detect *if marketing agencies have well-established supplier channels of physical objects to deliver their marketing solutions.*

*Companies A and B do have several partners that they cooperate with, but both companies pointed that the needs of a project determine which supplier company should work with. If the demand can be fulfilled by the current supplier, companies place an order to them; if not, they look for another*

*supplier. Thus, it is flexible. There were not identified any preventions from the existing network of suppliers for Alphaform to establish a supplier-buyer relationship with marketing agencies.*

### 5.2.5 Potential Cooperation with Alphaform

After shedding light on the services of marketing agencies and how physical objects are involved in development of marketing solutions, the last section touches upon a potential supplier linkage.

Marketing agencies were asked *what new business opportunities collaboration with Alphaform could bring to their companies.*

*Company A brought out once more that cooperation with Alphaform could be established to work on projects with ship building, mining and construction companies, where massive in size products are involved. For such products, it is only practicable to display a marketing solution in pictures; whereas presenting a 3D model could be more advantageous. Thus, it can result in added value for the end customer.*

*Company B mentioned that the company could cooperate with Alphaform if there was a need to brief to customers a package design. However, at the current moment Company B does not envision any projects in their business on which they would collaborate with Alphaform.*

*Also it was mentioned by Company C that customers with orders on packaging (particularly shaping) could create a demand to use Alphaform services, and thus result in a business opportunity for both Company C and Alphaform. But it was already noted by the company that they lack 3D modeling know-how within the company, and do not design package models.*

*Thereby, 2 companies underlined that end customer demand on packaging can result in collaboration between marketing agencies and Alphaform, which would bring business opportunities to both companies.*

To understand if a potential collaboration with Alphaform would bring any additional value to the services of marketing agencies, the following question was raised: *“would collaboration with Alphaform in any way make your marketing solutions more unique to your final customers?”*

*All respondents could not clearly indicate yes or no to the raised question. The reason behind is that it depends on which particular marketing solution should be carried out to fulfill needs and demands of end customers.*

In case Alphaform identifies a business opportunity with marketing agencies, the company should recognize *what would be important for marketing agencies in a potential cooperation with their company*. Therefore, marketing agencies were asked on that matter, and could pick which of 5 provided alternatives would be important. Alternatives were *exploring new business opportunities, long-term commitment between your company and Alphaform, technical assistance from Alphaform, idea sharing between your company and Alphaform, networking*.

*For none of the marketing agencies long-term commitment is important. There was no single concern which would be equally important to all respondents. Exploring new business opportunities and idea sharing between companies were identified important to companies A and C. Technical assistance from Alphaform is important to companies B and C, while networking is important for companies A and B. It appears self-evident that all marketing agencies value different components of business collaboration. Thus, it should be taken into consideration by Alphaform if they decide to target marketing agencies as potential customers.*

To cooperate with marketing agencies and to fit in their supply chain, Alphaform has to know *within how many days marketing agencies would need the order to be filled*. Study participants could select from the following time frame options: *a week, 2 weeks, a month*.

*Companies B and C would need the order to be completed within 2 weeks, and Company C emphasized that would be the maximum period of time; while Company A expects the order to be filled within a week.*

*Last but not least, marketing agencies were asked whether they would be willing to present to their customers a potential cooperation with Alphaform. All of the study participants responded that they would whenever an opportunity presents itself.*

## 6 CONCLUSION

### 6.1 Outline

This research was initiated by Alphaform RPI Oy, which operates in fast growing 3D printing and rapid prototyping industry. The study was conducted in the form of a market research for the case company. The central focus of the research was to explore vision of marketing agencies on 3D printing and rapid prototyping services. It was identified that obtained vision of marketing agencies can help to illuminate any new or emerging trends to use physical objects, which was the objective of this research. For the case company any identified trends could become a source of growth.

Before undertaking the study, the researcher acknowledged that marketing agencies may have not considered using 3D printing services in their business. However, the idea was to facilitate marketing agencies to brainstorm how they could apply such a service, which could result in valuable insights both for the study and marketing agencies themselves.

Not only the research was aimed to find out the vision, but also the researcher needed to find out how physical objects are currently used in the business of marketing agencies to deliver marketing solutions. By exploring and understanding the business of marketing agencies the researcher could address the primary objective of the research. It was to determine whether marketing agencies with their customer needs and wants could become a potential group of customers for Alphaform RPI Oy.

There were no assumptions made prior to the data collection. For the present research it was essential to take into account each and every respondent's opinion. Theoretical framework was the basis on which the research was built. Particularly it provided guidelines on which set of interview questions would grasp the research problems.

Theoretical framework of this research was significantly focused on exploiting growth opportunities by looking at prospective customers and anticipating future trends rather than competition. It was referred to innovative strategic thinking, value innovation and blue ocean strategy. Market research served as a tool to explore prospective customers, which were the source of insights to anticipate any future trends or customer needs for the research.

The conclusions drawn from this research are presented below. Finally, further suggestions are outlined and discussed.

## 6.2 Conclusions

The research had two objectives. The first one was to examine if there are any emerging trends in the market to use physical objects that the case company could address. Since the research could not embrace the entire market, the scope of the research was limited to focus on marketing agencies located in Turku. The group looked appealing as potential customers to Alphaform. Thus, marketing agencies were the study participants for this research to identify any emerging market trends to use physical objects.

Earlier in research methodology chapter it was suggested to make account of each respondent's point of view on critical and central issues to the research. Since the vision of marketing agencies on 3D printing and rapid prototyping was the central interest of the case company, each response was examined thoroughly and was presented independently in the findings section. A common notion that was observed in the visions of two respondents is presented at this point. After 3D printing and rapid prototyping services will get more popular and more people will get to know about these services, marketing agencies might become more open to consider using 3D printing services in their business. Therefore, a further suggestion could be to promote 3D printing and rapid prototyping services, which is considered below in the later section.

With the findings it was identified that activities of marketing agencies have not been affected by 3D printing and rapid prototyping industry. The respondents were all familiar with the services, but they did not consider it as a substitute option for supply of physical objects.

*The research did not identify any emerging trends among marketing agencies to use physical objects.*

The second objective, which was the primary one of the study, was to determine whether marketing agencies with their customer needs and wants could become a potential group of customers for Alphaform. To achieve the objective, the needs of marketing agencies and their way of doing business were explored. A significant focus was placed on marketing agencies' demand of physical objects to deliver their marketing solutions. Moreover, the business relationship of marketing agencies with their end customers was studied. Theoretical framework specified that end customers play an important role in determining the direction of marketing agencies' business.

Marketing agencies offering a wide spectrum of services were selected as study participants for the present research so that to allow as broad perspective on the issues as possible. However, during the research it was found out that one company is making its way into a digital marketing agency. It follows that the need in physical objects for this marketing agency is on the decline. A practical implication for Alphaform is then to look at specialization of marketing agencies: what marketing solutions the agencies provide. It can be concluded that not all marketing agencies could be targeted equally as potential customers. *The demand for physical objects is determined by marketing agencies' specialization.*

During the research respondents many times emphasized that the need to use physical objects in the final marketing solution depends heavily on the end customers and what they want. *Therefore, needs of the end customers determine the demand for physical objects in marketing agencies.* It proves

theoretical inference that the demand of marketing agencies for supplier's services is derived from the demand of end customers.

The findings showed that 2 companies out of 3 do not require physical objects significantly to provide their marketing solutions. Majority of marketing agencies' customers purchase print advertising and digital media solutions, which are not relied upon physical objects. Thus, among marketing agencies where print advertising and digital media solutions are the most purchased solutions, there is no potential demand of physical objects for Alphaform to supply.

It was found out that the following marketing solutions: packaging, give-away materials and exhibitions, do rely on physical objects. Though those services are not purchased by majority of customers, they are not the least purchased services for 2 respondent companies. Thus, if the agency provides packaging, give-away materials and exhibitions solutions; there is a demand for physical objects. However, in order for Alphaform to decide targeting these marketing agencies, the company would need to explore and estimate the following: if there is an adequate number of marketing agencies in the region offering services which rely on the use of physical objects and whether the services that rely on physical objects account for sufficient business for those marketing agencies. That would help company to estimate if there is a sufficient demand for physical objects that Alphaform could supply.

With this research it was found out that respondent marketing agencies do not have a significant demand for physical objects; *therefore, Alphaform cannot consider them as a potential customer group to sell 3D printing services to.*

Since no market trends were identified and marketing agencies do not appeal as potential customers, theoretical suggestions on strategies how to exploit growth are not applied to the conclusions. But it was important to underline that competition is not the only place at which companies should look for growth. Anticipating market trends or customer needs as well as innovating on value is another source for companies to exploit growth.



Moreover, how marketing agencies deliver value to their customers and the existing network of suppliers were explored with this research. In case marketing agencies had a strong demand for physical objects, additional information besides the demand would be necessary to determine whether marketing agencies could be targeted as potential customers. Because neither any emerging market trend nor any sufficient demand for physical objects was identified, the findings on aforementioned researched issues (supplier network, value delivery etc.) made no difference to the conclusions on research objectives.

### 6.3 Suggestions

Although, it was concluded that a strong demand for physical objects does not exist in marketing agencies; respondents gave a few valuable hints where the demand could come from. During interviews respondents mentioned a few times that having a tangible model of a massive in size product (e.g. ships, machinery and bulky equipment) could be beneficial. A physical 3D model could enable marketing agencies to demonstrate a preview of the solution to the clients from different angles.

Suggestion for Alphaform would be to communicate about 3D printing and rapid prototyping services to a wider audience. A message about the technology, its applications and advantages should be spread not only to prospective customers, but possibly to a larger group. For instance, abovementioned opportunity to show a physical preview from all the angles could be a part of the message if Alphaform RPI Oy attempted to communicate to a broad audience.

It is advantageous for Alphaform RPI Oy if more people know about 3D printing and rapid prototyping technologies. It is the measures to ensure that next time when someone comes up with a great idea that can be implemented with 3D printing – they would turn to Alphaform RPI Oy as a company to perform that. In addition, by enlightening benefits of using 3D printing services, the message on

value of the services is being delivered. Potential buyers can perceive added value of the service comparing to other ways of production, and consider purchasing services from Alphaform. As portrayed in earlier example with massive products, having a preview of the solution as a physical 3D object can be perceived by a client as added value to the marketing solution.

Another respondent brought up that once company tried to do shaping of the package. Due to a lack of know-how in 3D modeling, the project did not run smoothly. A lack of know-how became an obstacle which prevented company to continue further with solutions involving 3D design. Therefore, the implication would be that Alphaform RPI Oy could at the same time offer technical assistance when they communicate to the audience about their services.

As 3D printing and rapid prototyping industry grows fast, the main suggestion would be to monitor trends constantly and to follow the dynamics of the market. "The epic effect of the trend monitoring may have a direct influence on the nature of the decisions management takes over a long period of time, because of the trends that are likely to emerge" (Birn, 2004).

#### 6.4 Limitations

In above section on sampling (see section 4.3) several limitations of the research were already discussed. Outlined were the sample size, and also reliability of researcher's skills.

The findings and the conclusions are not representative of all marketing agencies in Turku. The conclusions drawn are relevant to the moment of conducting this research.

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Appendix 1

## Invitation Letter

Dear XXX,

My name is Oxana Popova, and I am studying International Business Management at Turku University of Applied Sciences.

I am conducting a research study for Alphaform RPI Oy as part of my Bachelor's thesis, and I would like to invite you to participate.

Alphaform RPI Oy is a company located in Rusko, which provides rapid prototyping and small scale serial production services. The company is interested to learn how marketing agencies use physical objects in their marketing campaigns. Any new identified trends in the market could help Alphaform RPI Oy explore a potential market growth opportunity. *Your company* with outstanding global experience in advertising could provide very useful insights for this research.

If you decide to participate, you will be kindly asked to be interviewed. It would be a face-to-face interview, and should last not more than an hour. In particular, interview questions will be about advertising solutions you provide, and how physical objects are used in it.

I will be happy to answer any questions you have about this research.

Although you may not benefit directly from participating in this study, it could facilitate idea generation for you and your company.

Thank you for considering this invitation to participate in a research study for my thesis cooperation with Alphaform RPI Oy. I very much hope for your participation.

I look forward to hearing back from you.

Yours sincerely,

Oxana Popova

## Appendix 2

**Interview Questions**

## Intro

1. Do you work with 3D software to deliver your marketing solutions?
2. a. Have you ever used 3D printing and rapid prototyping services in your business? (For which purposes?)  
*b. If they haven't used.*

Are you familiar with 3D printing and rapid prototyping? If you had a chance to try 3D printing and rapid prototyping services for your business, how would you use it? Have you considered using these services already?

## Company's Services

3. What marketing solutions do you provide?

	Yes	No	Percentage
			of customers using it
○ print advertising	[   ]	[   ]	_____ %
○ TV advertising	[   ]	[   ]	_____ %
○ video production	[   ]	[   ]	_____ %
○ digital media	[   ]	[   ]	_____ %
○ exhibitions	[   ]	[   ]	_____ %
○ promotion events	[   ]	[   ]	_____ %
○ packaging	[   ]	[   ]	_____ %
○ give-away materials	[   ]	[   ]	_____ %

## Other

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4. How much do you rely on the use of physical objects to deliver your marketing solutions?

[    ] Significantly

[    ] Neutrally

[    ] Insignificantly

Other

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5. Which marketing solutions do require the use of physical objects?

	Strongly	Average	Poorly	Not at all
○ print advertising	[    ]	[    ]	[    ]	[    ]
○ TV advertising	[    ]	[    ]	[    ]	[    ]
○ video production	[    ]	[    ]	[    ]	[    ]
○ digital media	[    ]	[    ]	[    ]	[    ]
○ exhibitions	[    ]	[    ]	[    ]	[    ]
○ promotion events	[    ]	[    ]	[    ]	[    ]
○ packaging	[    ]	[    ]	[    ]	[    ]
○ give-away materials	[    ]	[    ]	[    ]	[    ]

Other

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6. **Do you feel there is a strong need of physical objects in your current marketing solutions? Will it be the same in the future? (Less or more?)**

7. Do you find it necessary nowadays to offer tangible items in marketing campaigns? (Mascots, key chains, product samples etc.)



## Value to the End Customers

8. How much time does it take to deliver a marketing solution to your business customers?

- ☐ less than 2 weeks  
☐ between 2 weeks and 2 months  
☐ more than 2 months

*If possible, a precise answer would be desired.*

Other

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9. Do you have to approve with your customers which external service providers will be involved in delivering the final product?

10. How do you do a preview of a marketing solution to your business customers?

- ☐ with physical prototypes  
☐ digitally

Other

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## Competitive Threats to Alphaform

11. a. Do you have well-established supplier channels of physical objects to deliver your marketing solutions?

*b. If not, but have thought of using physical parts.*

Have you considered any companies to fulfill your demand of physical objects in your activities?

### Potential Cooperation with Alphaform

12. What new business opportunities could collaboration with Alphaform bring to your company?

13. Would collaboration with Alphaform in any way make your marketing solutions more unique to your final customers?

14. What would be important for your company in a potential cooperation with Alphaform?

☐ exploring new business opportunities (e.g. differentiation of your services)

☐ long-term commitment between your company and Alphaform

☐ technical assistance from Alphaform

☐ idea sharing between your company and Alphaform

☐ networking

Other

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15. Within how many days would your company need the order to be filled by Alphaform?

☐ a week

☐ 2 weeks

☐ a month

Other

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16. Would you want to present to your customers a potential cooperation with Alphaform?

